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Network **18**

**Winning Tips
Business Intelligence
for Healthcare Industry:
An intelligent remedy
for healthcare's pain**

Business intelligence in healthcare industry

An 'intelligent' remedy for healthcare's pain

Healthcare organisations are facing an increased need to improve their operations, increase transparency, modify business processes, and thereby drive their overall performance. In order to achieve this, it is necessary to integrate, cross and inter-departmentalise processes and information. In light of this, Business Intelligence (BI) solutions offer an exciting opportunity which can be leveraged to give a competitive edge.



Courtesy: MAIA Intelligence Pvt. Ltd.

Faced with complex legal requirements and an ever-increasing need to be service-oriented, healthcare organisations must plan the range of services provided to patients with utmost care. To secure a long-term place in the industry, they must conduct business efficiently and cost-effectively. The ability to gain insight from data is a decisive factor in maintaining a competitive edge.



Sanjay Mehta
Is CEO at
MAIA Intelligence
Pvt. Ltd.

Besides, the need to fulfill external information requirements, e.g., providing case-costing information, hospitals also face a constantly growing need for internal information, like contribution margins per case, capacity utilisation, bed occupancy and referral patterns, among others. For healthcare organisations to be successful, its executives, senior physicians, and other decision makers must have up-

to-date information and evaluate it using multiple criteria. Likewise, physicians and nurses need timely evaluations to be able to manage their day-to-day activities. The information must summarised to help gauge whether the strategic goals of the organisation are being met – and to help make decisions at every level. With BI solutions, organisations are well equipped to take on these challenges.

BI for healthcare organisations

The rate of clinical data collection is growing exponentially, with more providers adopting clinical information systems and using ambulatory electronic medical records. Translating this data into actionable intelligence is challenging when using traditional BI and financially-focused decision support systems. Moreover, fiscal pressures continue to intensify as medicare, state regulators and commercial insurers implement value-based purchasing, price transparency and pay-for-performance programmes. Further, the appetite for self-service decision support is growing. Healthcare professionals want tools that include dashboards, data visualisation, and real-time business activity monitoring. BI has helped rationalise the flow of personal productivity tool (Access, Excel, etc.) generated data, which has created an explosion of uncontrolled and misapplied

data management and analysis efforts. The use of BI solutions aids in the streamlining of operations under such situations and helps to achieve the strategic goals such as competing based on value and quality.

The solution

Companies may have different approaches in funding their healthcare systems, but one thing remains clear and constant: it is in everyone's best interest to have them operate as efficiently as possible. And hospitals are a classic example of an operational excellence challenge: human and capital resource intensive, high levels of variation per case, and low levels of 'automation' (inversely, a high level of human intervention) require a proactive management, where relevant data can improve decision making. Margins per case, capacity utilisation, bed occupancy, referral patterns, etc., can help hospitals and clinic managers do more with less.

BI empowers a wider array of staff and decision makers by providing relevant data within a user and context-friendly interface. Through various desktop and/or Web interfaces, data can now be delivered beyond administrative offices and directly to clinical staff who can make the most use of it. In turn, this access to 'real-time' data provides a finer level of insight into data, resulting in more precise decision making and optimisation. Further, by integrating BI within business processes and distributing it more widely, decisions can be made at the point of impact. But to ensure that the data can be trusted, a solid data foundation must first be established.

BI for everyone

BI allows a large number of users to access the information through an interactive, user-friendly interface—regardless of the type or source of information—and relevant so that users can employ it

to address immediate issues and support business decisions.

The end goal of BI is to empower decisions 'at the point of impact'. In other words, the person who is the most adept at making a decision should have access to the most relevant information to affect change—be it an operational clerk ordering supplies or a nurse making patient priority decisions. To achieve this level, information must be delivered in a simple way, in a form that is consistent with the business decisions it supports. The advantages of BI solutions for different levels of management at healthcare organisations:

1. Hospital CEOs
2. Hospital management accountants
3. Hospital pharmacists
4. Coding directors

Data analysis for strategic planning and decision making

BI acts as a tool to aid the decision making process. Organisations can tailor the reports thus generated to meet their special needs. Besides, they can define the organisation's own analysis based on the information acquired from diverse systems within the organisation. They can easily create the following reports with BI:

- Costs and contribution margins per care unit
- Evolution of open items per insurance provider
- Personnel costs compared with revenue
- Medical material requirements per department

Planning

The first step towards optimal hospital control is to define primary objectives and to implement powerful reporting of hospital information. To convert strategic goals into action, they also need a planning instrument that can perform key tasks such as

comparing plan data with actual data to determine if they have met the targets. In this case, BI compares the plan data with the actual data. The plan and actual data are used to define and control target values.

Financial analysis

Healthcare organisations need visibility into the full scope of their financial operations. BI provides full transparency, analysis and delivery of financial & operational data. BI enables healthcare providers to drill from reports into detailed analyses of costs & revenues, view data underlying cash flow statements, and compare planned versus actual income and margin. BI’s analytical capabilities allow providers to analyse current care practice patterns, execute cash flow analysis, predict collections and monitor underwriting requirements.

Quality performance and safety analysis

Providers can use BI to monitor the quality of their care according to the Health Plan Employer Data and Information Set (HEDIS) standards established by the National Committee for Quality Assurance.

Marketing analysis

BI also allows providers to determine the most cost-effective marketing techniques by tracking campaign costs against budget, calculating the return on

investment for campaigns, and comparing performance against goals. In addition, BI allows healthcare providers to use dashboards to show which products and services are profitable in specific patient segments.

Claims analysis

BI enables healthcare organisations to analyse risk across the network, detecting anomalies tied to errors or fraudulent claims, increasing visibility of claims-payment flows, and identifying loss potentials for specific geographical areas. In addition, BI can be used for call centre solutions, with analysis down to the individual call detail record, helping ensure high levels of patient support while controlling costs.

Clinical data analysis

BI helps providers identify trends and anomalies, and analyse risk in clinical care. Furthermore, physicians, hospitals, and healthcare organisations are discovering that they cannot provide the best care by operating autonomously as independent silos. With BI, all constituents can work from the same data over a secure extranet with information personalised based on security credentials. BI’s unique centralised administration and role-based security assures that healthcare providers have security measures at every layer of the architecture. With secure, essential clinical information, individual practitioners can diagnose and prescribe more quickly and provide top quality care with greater peace of mind.

Patient care analysis

Utilising BI, right people to access the right information at the right time, delivering a single platform to healthcare providers for sharing information with patients for better decision-making and connecting patients across hospital, nursing

Business Imperatives for BI:	
Reporting Needs of Key Stakeholders	Inadequacies of available solutions
Clinic operations and clinicians –Health and wellness programs	Current applications –Limited access to data, inflexible and excessive user manipulation
Clients –Health of employee population	Deployment across multiple Sites –Unable to integrate reporting across multiple clinics and clients
Sales and medical operations –Direct and indirect value	Multiple data sources –Multiple internal and external sources
Finance and Business Management –Operational and financial metrics	Evolving Needs Over Time –Flexibility in design to support Evolution in source systems and reporting Needs

home, the physician's office and community social support settings. By providing easy, secure access to crucial information, BI supports safe care delivery, assists clinicians in evidence-based clinical decision-making, and facilitates seamless care co-ordination across clinical settings.

Operational performance and cost management

BI enables providers to identify those areas that are underperforming and require immediate action. In addition, with so much emphasis on controlling costs, healthcare providers need to closely monitor expenditures and determine the best allocation of funds. BI allows providers to drill down into unusual costs, ascertain best practices of the most profitable business units, and identify utilisation patterns. Further, it enables providers to measure employee and physician performance and productivity, while dashboards allow them to track the success of pay-for-performance initiatives.


Resource and human capital management

BI allows providers to eliminate waste, better allocate

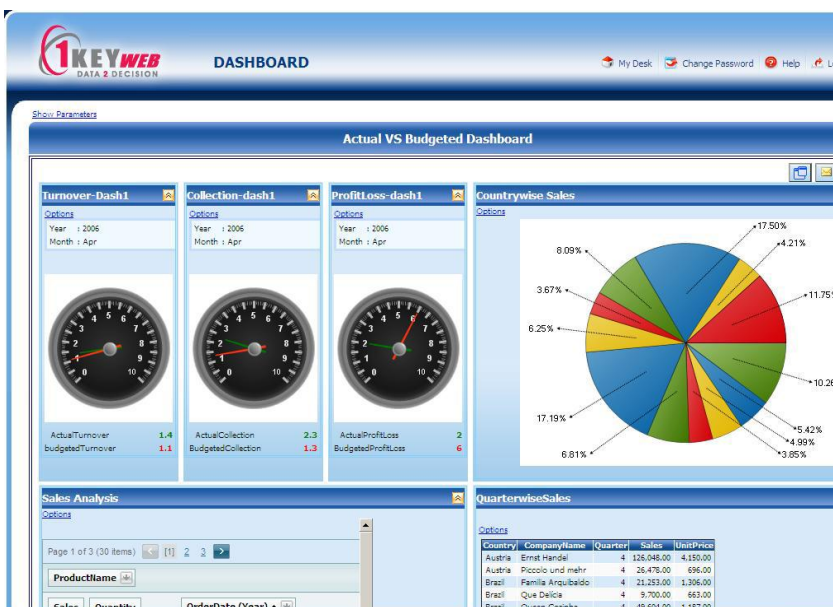
insufficient resources, and make better decisions regarding supplier usage. In addition, labour costs are one of the largest expenses for most healthcare organisations, making human capital management a critical application of BI in this industry. Healthcare organisations can use BI for strategic analysis of compensation, performance benchmarks, workforce productivity, turnover and retention, staffing and employee relations, and employee recruitment and development. CFO can use BI to improve the internal resource utilisation which can help save millions.

Gaining the competitive edge

BI brings analytical power, giving immediate answers to business questions. By increasing self-service and maintaining IT control, it empowers business users to create their Management Information System (MIS) thereby reducing IT report creation backlog. It is easy to administer and quick to deploy, often in a matter of days, thereby abbreviating time to market and expediting decision making.

Healthcare practitioners can rely on BI to manage an increasing number of decisions, which all have impact on the rest of the organisation and ultimately, on the bottom-line. With BI, more granular information can be delivered just-in time, which is valuable to such an effect that it can impact, change and improve actual management decisions. 

(mmedit@infomedia18.in)



Courtesy: MAIA Intelligence Pvt. Ltd.